

# Taking Care of Unfinished Business – Watts Bar 2

QUARTERLY UPDATE: NOVEMBER 2012 – JANUARY 2013



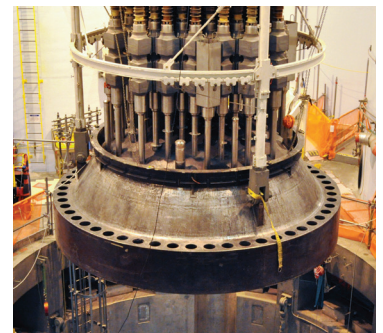
## OVERVIEW

Approximately nine months after TVA's Board of Directors approved continuing with the completion of Watts Bar Unit 2 in accordance with a revised Estimate to Complete (ETC), the project remains on track.

Results for the third quarterly update, which covers the months of November 2012 through January 2013, indicate performance continues to be consistent with the ETC.

During the quarter:

- Workers continued to deliver good safety performance.
- Quality performance, measured by the Quality Control (QC) Acceptance Rate, remained high, tracking above 96 percent. The project identified an increase in QC rejections of pipe hangers and took action to improve performance.
- The project continued to track to a completion date of December 2015 and within a cost range of \$4 billion to \$4.5 billion.
- No new risks were identified that compromise project completion. Previously identified challenges in the Corrective Action Program, in productivity, and in document closure are being addressed in order to avoid negative impacts.
- Regulatory and licensing issues remained the primary risks for the project.
- A risk assessment was conducted to identify how the work environment could be further improved and what could potentially prevent Watts Bar 2 from being delivered safely, on time, and within budget.



The 288,000-plus pound Watts Bar 2 reactor pressure vessel head was safely moved from its holding stand to the top of the reactor pressure vessel in order to support work activities in the containment building.

## Quarterly Highlights

- Achieved more than 17.8 million hours without a lost-time accident
- Began the transition from bulk construction to completing systems and releasing them for testing
- Formed a Dual Unit Operational Readiness Team
- Implemented the Watts Bar 2 Project Completion Incentive Plan to help retain the best skilled workers, ensure completion of work activities in a safe and high quality manner, and sustain a level of productivity that aligns with the construction schedule

## SAFETY

In addition to working more than 17.8 million hours without a lost-time accident, the project's Recordable Incident Rate was better than goal. This ongoing good performance is attributed to the project's focus on engaging the workforce and interactive communications with employees.

## QUALITY

The quality of the completed construction is primarily measured by the QC Acceptance Rate, which is the percentage of work approved through the QC inspection process during installation. During the quarter, work quality remained high, which is an indication of positive worker training and strong involvement of QC workers in day-to-day project activities.

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## COST

Current project cost is monitored by a Cost Performance Index (CPI) that measures whether construction workers complete tasks according to the work hours planned in the ETC. The CPI for the third quarter met expectations; the CPI for the project to date is 1.02, which is slightly better than the estimated target.

As the project transitions from bulk construction to system completion and testing, the CPI will not accurately reflect progress. Therefore, the Watts Bar 2 team began developing a more broad-based indicator for monitoring cost performance that will replace the CPI currently in use.

## SCHEDULE

Schedule performance met expectations during the quarter. Actions taken during the quarter that kept schedule performance on target included:

- Daily schedule adherence meetings to identify and remove barriers to success;

- Incremental increases in craft staffing levels; and
- Daily monitoring of critical path tasks, completion of construction field work, construction release of systems for testing, and completion of work documentation.

## COMMODITIES

The pace of installing commodities, such as miscellaneous steel, conduit, valves, and tubing, was on track to support schedule completion milestones.

COMMODITY DESCRIPTION	BOARD APPROVED	REMAINING
Miscellaneous Steel	109,855 pounds	60,986 pounds
Cable	311,255 linear feet	280,763 linear feet
Conduit	43,992 linear feet	4,627 linear feet

COMMODITY DESCRIPTION	BOARD APPROVED	REMAINING
Tubing	22,932 linear feet	18,475 linear feet
Pipe Welds	3,281	1,054
Hangers	384	120

## GOING FORWARD

During the upcoming quarter, the project will focus on several key areas. These include:

- Unit 1/Unit 2 Integration – The newly formed Dual Unit Operational Readiness Team will continue to focus on implementing a plan to transition Watts Bar Nuclear Plant from two units – one operating and one under construction – to what it was designed to be – a safe, reliable dual-unit operating station.
- System Completion – As the project transitions from bulk construction, personnel are augmenting work processes, oversight, monitoring, and other project functions in order to support system completion and testing. The acceleration of several systems to completion in order to begin testing will help find potential issues in the completion and testing processes early.
- Electrical Conduit and Cable Completion – The Watts Bar 2 team identified a need for detailed schedule logic for conduit and cable completion for each system prior to system completion and open vessel testing. Necessary electrical conduit and cable schedule logic has been developed, and an action plan is being implemented, with bulk cable installations underway.

### Project Risks

**Fukushima** – The regulatory impacts of Fukushima, including issues related to earthquakes and extreme flooding, will be significant. The NRC continues to develop its final regulatory framework for the industry response to Fukushima. In order to maintain momentum toward Unit 2 completion, Watts Bar has used the NRC's current Fukushima framework to prepare and submit documents describing the actions and modifications to be done to further protect against earthquakes, floods, or a loss of power.

**Waste Confidence** – The NRC is in the process of reissuing a Waste Confidence rule that was recently invalidated by a court because the rule failed to fully comply with the requirements of the National Environmental Policy Act. The time it may take to reissue the rule has the potential to impact the final licensing process for the project, but it is not expected to impact the project in the short term. The project team is developing a strategy to address the matter on a site-specific basis, if necessary.

**Closing Work Documents** – Over time, the completion of the Watts Bar 2 construction work has outpaced the required work completion documentation and its final verification. A modified closure process has been developed and implemented that makes it easier to “unbundle” old work packages containing multiple work orders associated with multiple systems.

For ongoing information about the progress in building Watts Bar 2, which will be TVA's seventh nuclear unit and the first new reactor scheduled to achieve commercial operation since Watts Bar Unit 1 in 1996, go to [http://www.tva.com/power/nuclear/wattsbar\\_unit2.htm](http://www.tva.com/power/nuclear/wattsbar_unit2.htm).